

IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

1. (currently amended) An oil-in-water lipid emulsion for delivering biologically active material selected from the group consisting of DNA, RNA, antisense nucleic acid, polynucleotide and oligonucleotide, said emulsion comprising: 2-30% of squalene or squalane non-triglyceride oil; 0.01-20% of one or more cationic lipid transfection agents; and water to 100%.

Claim 2 (canceled)

3. (currently amended) A method of preparing an oil-in-water lipid emulsion for delivering biologically active material selected from the group consisting of DNA, RNA, antisense nucleic acid, polynucleotide and oligonucleotide, said method comprising: a) preparing an aqueous phase by mixing 0.01-20% of one or more cationic lipid transfection agents with water and b) emulsifying said aqueous phase with 2-30% of squalene or squalane non-triglyceride oil.

Claim 4 (canceled)

5. (original) The emulsion according to claim 1, further comprising 0.01-10% of a hydrophilic polymer or hydrophilic polymeric lipid.

Claim 6 (canceled)

7. (previously presented) The emulsion according to claim 1, further comprising a phospholipid or a non-ionic surfactant.

8. (previously presented) The emulsion according to claim 1, wherein the cationic lipid transfection agent is selected from the group consisting of:

1,2-dimyristoyl-3-trimethylammonium-propane,
1,2-dipalmitoyl-3-trimethylammonium-propane,
1,2-distearoyl-3-trimethylammonium-propane,
1,2-dioleoyl-3-trimethylammonium-propane,
1,2-dimyristoyl-3-dimethylammonium-propane,
1,2-dipalmitoyl-3-dimethylammonium-propane,
1,2-dilauroyl-3-dimethylammonium-propane,
1,2-distearoyl-3-dimethylammonium-propane,
1,2-dipalmitoyl-3-trimethylammonium-propane,
N-[1-(1,2-dioleoyloxy)propyl]-N,N,N-trimethylammonium chloride,
1,2-dioleoyl-3-ethylphosphocholine, and other cationic lipids.

9. (previously presented) The emulsion according to claim 1, further comprising glycerol or fusogenic peptides.

10. (previously presented) The emulsion according to claim 9, wherein the fusogenic peptide is polyethylene glycol of MW 500-1000 or HA gp 41.

11. (previously presented) The emulsion according to claim 5, wherein the hydrophilic polymer is selected from the group consisting of polyoxyethylene, polyethyloxazoline and polyethyleneglycol.

12. (previously presented) The emulsion according to claim 7, wherein the phospholipid is selected from the group consisting of phosphatidylcholine, phosphatidylethanolamine, phosphatidylserine, diacetylenic phospholipid and derivative thereof and the non-ionic surface active agent is selected from the group consisting of poloxamer, sorbitan ester, polyoxyethylene-sorbitan fat acid ester and polyoxyethylene ethers.

13. (previously presented) The emulsion according to claim 1, further comprising 1,2-dioleoyl-sn-3-phosphatidylethanolamine, diolein, fatty alcohol, cholesterol or bile salt.

Claims 14-21 (canceled)

22. (previously presented) A complex of the emulsion according to claim 1, and a biologically active material selected from the group consisting of DNA, RNA, antisense nucleic acid, polynucleotide, and oligonucleotide.

23. (previously presented) The complex according to claim 22, further comprising glycolipid, lipopeptide, antibody, ligand for receptors or viral protein to target specific cells or organs.

24. (previously presented) The complex according to claim 22, further comprising protamine sulfate, histone or cationic polymer.

25. (previously presented) The complex according to claim 24, wherein cationic polymer is polylysine.

26. (previously presented) The complex according to claim 22, further comprising monovalent or multivalent salt.

27. (previously presented) The complex according to claim 23, wherein the cell is selected from the group consisting of white blood cells, fibroblasts, cancer cells, cells infected with virus, epithelial cells, endothelial cells, muscle cells, liver cells, endocrine cells, neural cells, dermal cells, germ cells, oocytes, sperms, hematopoietic cells, fetal cells, M cells, Langerhans islet cells, macrophages, plant cells, animal cells, and immortalized cell lines.

Claim 28 (canceled)

29. (previously presented) The complex according to claim 22, further comprising lipophilic or amphiphilic drug in an oil phase, wherein the lipophilic or amphiphilic drug is selected from the group consisting of antivirals, steroidal anti-inflammatory drugs, non-steroidal anti-inflammatory drugs, antibiotics, antifungals, vitamins, hormones, retinoic acid, prostaglandins, prostacyclins, anticancer drugs, antimetabolite drugs, mitotics, cholinergics, adrenergic antagonists, anticonvulsants, antianxiety agents, major tranquilizers, antidepressants, anesthetics, analgesics, anabolic steroids, estrogens, progesterones, glycosaminoglycans, polynucleotides, immunosuppressants and immunostimulants.

30. (currently amended) A [[The]] complex of an oil-in-water emulsion for delivering DNA, RNA, antisense nucleic acid, polynucleotide, or oligonucleotide; according to claim 29, wherein said emulsion comprises 2-30% of non-triglyceride oil, 0.01-20% of one or more cationic lipid transfection agents, the anticancer drug is taxol, paclitaxel or fluorouracil in oil phase, and water to 100% fluorouracil.

Claims 31-39 (canceled)

40. (currently amended) The method complex according to claim 3, wherein the aqueous phase further comprises 0.01-10% of a hydrophilic polymer or hydrophilic polymeric lipid.

Claim 41 (canceled)

42. (currently amended) A method of preparing an oil-in-water lipid emulsion for delivering biologically active material selected from the group consisting of DNA, RNA, antisense nucleic acid, polynucleotide and oligonucleotide, said method comprising: a) preparing an oil phase by mixing 0.01-20% of one or more cationic lipid transfection agents with 2-30% of squalene or squalane ~~non-triglyceride oil~~ and b) emulsifying said oil phase with water.

Claim 43 (canceled)

44. (currently amended) A [[The]] complex of an oil-in-water emulsion for delivering DNA, RNA, antisense nucleic acid, polynucleotide, or oligonucleotide; according to claim 29, wherein said emulsion comprises 2-30% of non-triglyceride oil, 0.01-20% of one or more cationic lipid transfection agents, the immunosuppressant is cyclosporin A in oil phase, and water to 100%.

Claims 45 (canceled)